

Serial Device Servers and IP Gateways

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To view all of Advantech's Serial Device Servers, please visit www.advantech.com/products.



Selection Guide

Cellular IP Gateways (iGateways)

NEW



NEW



| Model Name | EKI-1321 | EKI-1322 |
|-----------------------------------|--|--|
| Product Description | 1-port RS-232/422/485 to GPRS IP Gateway | 2-port RS-232/422/485 to GPRS IP Gateway |
| Cellular Interface | GSM/GPRS | |
| Quad-band Options | 850/900/1800/1900 MHz | |
| Antenna Connector Type | SMA female | |
| No. of Antenna connector | 1 | |
| No. of Serial Ports | 1 | 2 |
| No. of Ethernet Ports | 1 | |
| Ethernet Interface | 10/100 Mbps | |
| Baud Rate | 50 bps ~ 921.6 kbps | |
| Operation Mode / Software Feature | Virtual COM, Reverse Virtual COM, TCP Server, TCP Client, UDP, SMS Tunnel Mode | |
| Utility | Windows 2000/XP/Vista/7, Web Console | |
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Wireless Serial Device Servers

NEW



NEW



| Model Name | | EKI-1361 | EKI-1362 | EKI-1351 | EKI-1352 |
|--------------------------|----------|--|--|--|--|
| Product Description | | 1-port RS-232/422/485 to 802.11b/g/n WLAN Serial Device Server | 2-port RS-232/422/485 to 802.11b/g/n WLAN Serial Device Server | 1-port RS-232/422/485 to 802.11b/g WLAN Serial Device Server | 2-port RS-232/422/485 to 802.11b/g WLAN Serial Device Server |
| No. of Ethernet Port | | 1 | 1 | - | - |
| No. of Serial Port | | 1 | 2 | 1 | 2 |
| Ethernet Interface | | 10/100/1000 Mbps | | | - |
| WLAN | | 802.11b/g/n | | | 802.11b/g |
| Antenna Connector Type | | RP-SMA (female) | | | |
| No. of Antenna connector | | 2 | | | 1 |
| Serial Type | | RS-232/422/485 | | | |
| Connector | Ethernet | RJ45 | | | - |
| | Serial | DB9 Male | | | |
| Baud Rate | | 50 bps ~ 921.6 kbps, any baud rate setting | | | |
| Operating Mode | | Virtual COM, TCP Server, TCP Client, UDP, Peer to Peer, AT Command | | | |
| Driver | | 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux | | | |
| Certification | | CE, FCC, KCC, TELEC | | | Class I Division 2 Groups ABCD T4, UL/cUL 60950-1, FCC, CE |
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Dual Ethernet Serial Device Servers



| Model Name | EKI-1521 | EKI-1522 | EKI-1524 | EKI-1528 | EKI-1526 |
|----------------------|--|--|--|--|---|
| Product Description | 1-port RS-232/422/485 Serial Device Server | 2-port RS-232/422/485 Serial Device Server | 4-port RS-232/422/485 Serial Device Server | 8-port RS-232/422/485 Serial Device Server | 16-port RS-232/422/485 Serial Device Server |
| No. of Ethernet Port | 2 | | | | |
| No. of Serial Port | 1 | 2 | 4 | 8 | 16 |
| Ethernet Interface | 10/100 Mbps | | | | |
| Serial Type | RS-232/422/485 | | | | |
| Connector | Ethernet | RJ45 | | | |
| | Serial | DB9 Male | | | RJ45 |
| Baud Rate | 50 bps ~ 921.6 kbps, any baud rate setting | | | | |
| Operating Mode | Virtual COM, TCP Server, TCP Client, UDP, Peer to Peer, AT Command, and RFC2217 modes | | | | |
| Driver | 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux | | | | |
| Certification | Class I Division 2 Groups ABCD T4, UL/cUL 60950-1, FCC, CE | | | FCC, CE | |
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Single Ethernet Serial Device Server



| Model Name | ADAM-4571 | ADAM-4571 L | ADAM-4570 | ADAM-4570 L |
|----------------------|--|------------------------------------|--|------------------------------------|
| Product Description | 1-port RS-232/422/485 Serial Device Server | 1-port RS-232 Serial Device Server | 2-port RS-232/422/485 Serial Device Server | 2-port RS-232 Serial Device Server |
| No. of Ethernet Port | 1 | | | |
| No. of Serial Port | 1 | | 2 | |
| Ethernet Interface | 10/100 Mbps | | | |
| Serial Type | RS-232/422/485 | RS-232 | RS-232/422/485 | RS-232 |
| Connector | DB9 Male | | RJ45 | RJ48 |
| | | | | |
| Baud Rate | 50 bps ~ 921.6 kbps, any baud rate setting | | | |
| Operating Mode | Virtual COM, TCP Server, TCP Client, UDP, Peer to Peer, and AT Command modes | | | |
| Driver | 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux | | | |
| Certification | FCC, CE | | | |
| Page | online | | | |

Accessories



| Model Name | OPT1-DB9 | OPT1A | OPT1D | OPT1I | OPT1J |
|--------------------------|-----------------------------------|-----------------------|----------|--------------------|-------|
| Length | - | 1 m | 30 cm | 1 m | 30 cm |
| Communication Interfaces | Connector Type | DB9 Female | RJ48 | RJ45 | |
| | Qty | 1 | 1 | 1 | |
| | Connector Type | Terminal | DB9 Male | DB9 Male | |
| | Qty | 1 | 1 | 1 | |
| Where Used | EKI-1000 Series, ADAM-4570 Series | ADAM-4570, ADAM-4570L | | EKI-1526, EKI-1528 | |
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Selection Guide

Modbus Gateways



| Model Name | EKI-1221 | EKI-1222 | EKI-1224 | EKI-1221D | EKI-1222D | ADAM-4572 |
|-----------------------|--|-----------------------|-----------------------|--|--|-----------------------|
| Product Description | 1-port Modbus Gateway | 2-port Modbus Gateway | 4-port Modbus Gateway | 1-port Modbus Gateway with Integrated Cascading Ethernet | 2-port Modbus Gateway with Integrated Cascading Ethernet | 1-port Modbus Gateway |
| No. of Ethernet Ports | 2 | | | | | 1 |
| No. of Serial Ports | 1 | 2 | 4 | 1 | 2 | 1 |
| Ethernet Interface | 10/100 Mbps | | | | | |
| Serial Type | RS-232/422/485, software selectable | | | | | |
| Connector Type | DB9 Male | | | | | Screw Terminal |
| Ethernet Feature | Dual Ethernet Redundancy | | | Daisy-Chain Connectivity | | - |
| Configuration | Windows Configuration Utility, Web-Browser Console | | | | | Windows Utility |
| Operating Mode | Modbus RTU Master, Modbus RTU Slave, Modbus ASCII Master, and Modbus ASCII Slave modes | | | | | |
| Baud Rate | 50 bps ~ 921.6 kbps | | | | | |
| Certification | Class I Division 2 Groups ABCD T4, FCC, CE | | | | | FCC, CE |
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Serial to USB Converters



| Model Name | | ADAM-4561 | ADAM-4562 | USB-4604B | USB-4604BM |
|---------------------|-----------|---|---|--|--|
| Product Description | | 1-port Isolated USB to RS-232/422/485 Converter | 1-port Isolated USB to RS-232 Converter | 4-port RS-232 to USB Converter with ESD Surge Protection | 4-port RS-232/422/485 to USB Converter with ESD Surge Protection |
| Interface | | USB 1.1 | | | USB 1.1/2.0 |
| Serial Port | | 1 | | | 4 |
| Baud Rate | | 50 ~ 115.2 kbps | 75 ~ 115.2 kbps | 50 ~ 921.6 kbps | |
| Serial Type | | RS-232/422/485 | RS-232 | RS-232 | RS-232/422/485 |
| Connector | USB | Type B | | | |
| | Serial | Screw Terminal | DB9 | | |
| Protection | Isolation | 3,000 V _{DC} (RS-232/422/485) | 2,500 V _{DC} | - | |
| | Surge | - | | | 2,500 V _{DC} |
| Driver | | Windows 2000/XP | | | Windows 2000/XP/Vista/7, CE5.0/6.0, Linux |
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Cellular IP Gateways Introduction

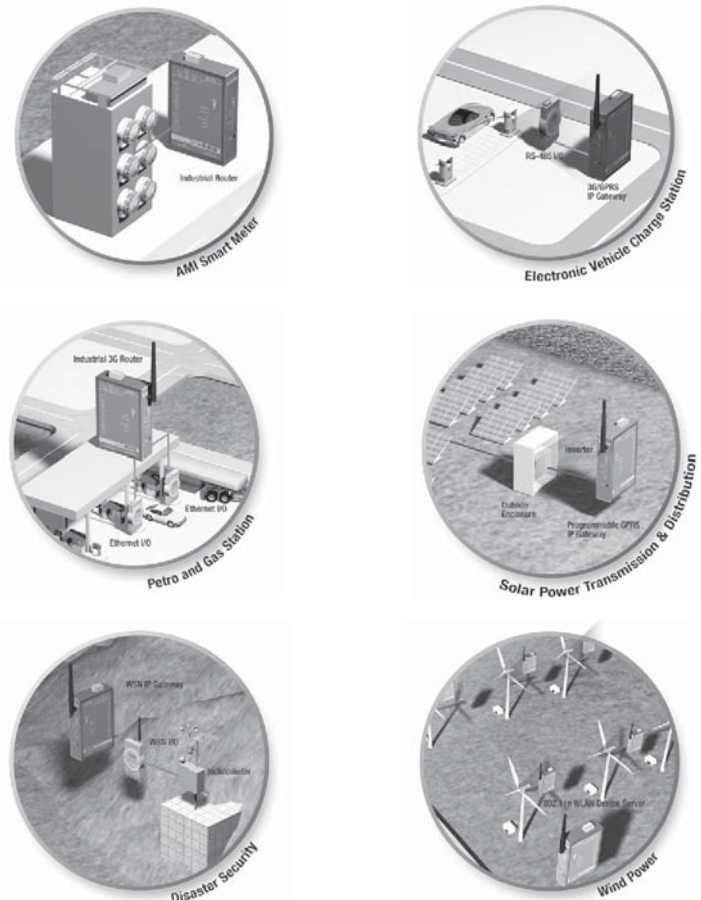


IoT (Internet of Things) architecture is divided into four layers: sensor, network, service and application. As the internet greatly increased people-to-people interactions, the IoT greatly increases people-to-object and object-to-object interactions. The network layer represents access to all object data via wireless networks and the internet coverage in a real-time data stream. The Intelligent Cellular IP Gateways in the network layer of IoT architecture link all the objects, devices and transmit sensor information through reliable wired and wireless communication (3G, GPRS, Wi-Fi, Zigbee) networks. The goal and objective is to build up "ubiquitous networks connected to all objects".

Key Features

- Compact and simple
- Extremely versatile gateway features
- Dual SIM slots for connection redundancy
- Extra SD slot for data buffering and auto recovery
- Provides NAT with VPN
- Universal quad-band GSM/GPRS 850/900/1800/1900 MHz

Application



- 1 WebAccess+ Solutions
- 2 Motion Control
- 3 Power & Energy Automation
- 4 Automation Software
- 5 Operator Panels
- 6 Automation Panel PCs
- 7 Industrial Panel Computers & Panel PC
- 8 Industrial Monitors
- 9 Industrial Wireless Solutions
- 10 Industrial Ethernet Solutions
- 11 Serial Device Servers and IP Gateways
- 12 Serial Communication Cards
- 13 Embedded Automation Computers
- 14 PACs
- 15 Compact PCI Systems
- 16 M2M I/O Modules
- 17 RS-485 I/O Modules
- 18 Ethernet I/O Modules

Device Server Technologies

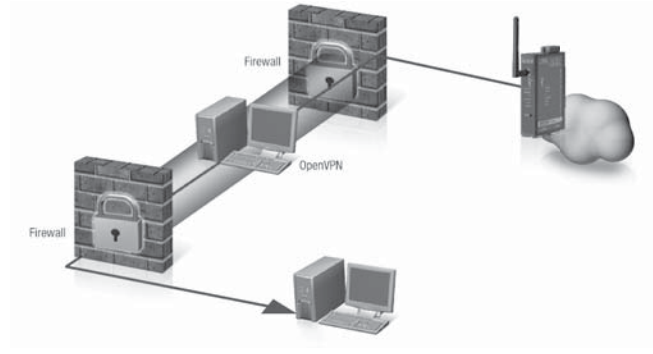
RVCOM

iGateway series supports Advantech patented RVCOM function that allows user use the virtual com port as usual, even the device gets a private IP address.



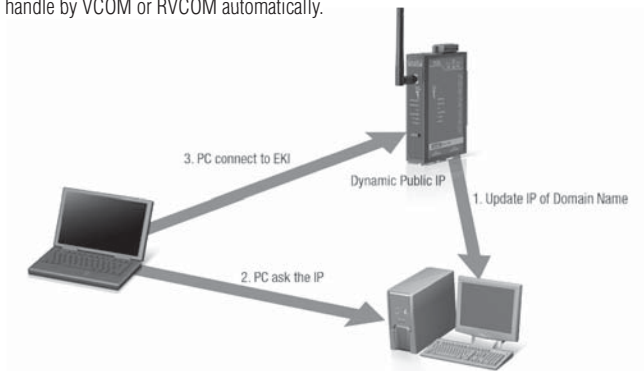
OpenVPN Support

iGateway series supports standard OpenVPN protocol that provide trustable data communication. User can setup private OpenVPN server easily without extra software license fee.



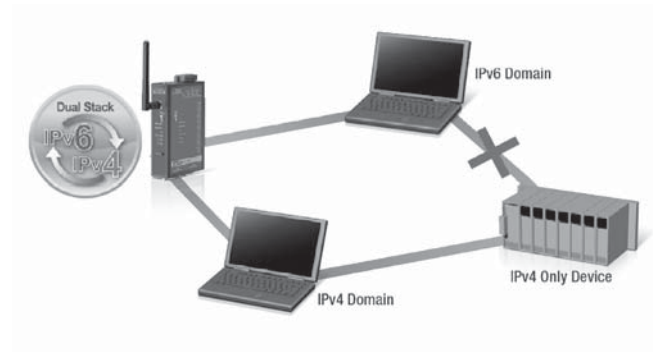
DDNS Support

DDNS support helps user to locate the exactly current IP address of device easily. Device will automatically update current IP address to DDNS server. When use DDNS with VCOM or RVCOM, user doesn't need to do the lookup manually after setup. The connection will handle by VCOM or RVCOM automatically.



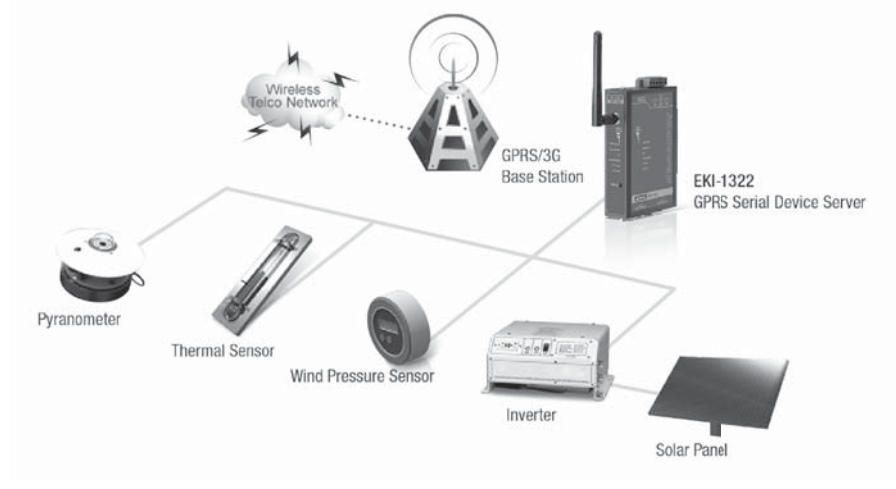
IPv6 and IPv4 Dual Stack Support

IPv6 will get popular eventually. iGateway series supports IPv6 and IPv4 dual protocol stack that helps user to overcome the impact of Ethernet architecture transition smoothly and easily.



iGateway Application for Solar Power

Advantech's GPRS/3G Serial Device Servers are a perfect fit for wireless data transmission systems due to their great performance, reliability and ruggedness. The GPRS/3G Serial Device Servers collect data from solar panels & inverters, pyranometers, and relative sensors. This information is transmitted through cellular data network to the telecom control center. Service providers and users are able to easily access real-time information anywhere, anytime. The GPRS/3G Serial Device Servers provide dual SIM slots for telecom carrier redundancy and one SD slot for serial data buffering.



EKI-1321

EKI-1322

1-port RS-232/422/485 to GPRS
IP Gateway

2-port RS-232/422/485 to GPRS
IP Gateway

NEW



Features

- Universal quad-band GSM/GPRS 850/900/1800/1900 MHz
- Dual SIM for telecom redundancy
- Support SDHC SD Card for Data Buffering
- Connect Ethernet and Serial Devices over VPN
- Various operation modes: COM port redirector, RVCOM, TCP, UDP, SMS tunnel, and pair connection
- Any baud rate setting for easy configuration
- Built-in 15 KV ESD protection for all serial signals
- 1.5 KV isolation protection (EKI-1321)
- 2 digital inputs (EKI-1321)
- Multiple configuration methods: Windows utility, Telnet, and Web console
- Supports 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux

Introduction

EKI-1321 and EKI-1322 cellular gateways can transparently bring RS-232/422/485 or Ethernet devices to a cellular network. They allow nearly any device with serial or Ethernet ports to connect and share a cellular network with easy and simple configuration. EKI-1321 and EKI-1322 GPRS IP Gateway's are compact, and can be DIN-rail or wall mounted and with both front panel and side panel LED displays for easy identification. They come with dual DC power input from 12 to 48 V_{DC} and have 2 KV EFT/Surge protection to prevent damage from various type of power resources. The serial ports are also protected by 15 KV ESD line protection to keep your system safe from unexpected electrical discharges. Both models support dual SIM slots to support GPRS signal redundancy to switch to an available channel automatically while the existing one is disconnected, and SD card slot for data buffering to prevent loss of serial data while the communication is interrupted.

Specifications

LAN Interface

- **Ethernet** 10/100 Mbps, auto MDI/MDIX
- **Connector** RJ45
- **Protection** 1.5 KV built-in magnetic isolation protection

Cellular Interface

- **Standards** GSM/GPRS
- **Band Option** Quad-band 850/900 and 1800/1900 MHz
- **GPRS Multi-Slot** Class 10
- **GPRS Terminal Device** Class B
- **GPRS Coding Schemes** CS1 ~ CS4
- **Tx Power** 1 W for GSM 1800/1900, 2 W for EGSM 850/900
- **No. of SIM** 2
- **SIM Control** 3 V

Serial Communications

- **Port Type** RS-232/422/485, software selectable
- **No. of Ports** EKI-1321: 1, 2 KV isolation protection
EKI-1322: 2
- **Port Connector** DB9 male
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** None, Odd, Even, Space, Mark
- **Baud Rates** 75 bps to 921.6 kbps, any baud rate setting
- **Serial Signals** RS-232: TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485: Data+, Data-, GND
15 KV ESD for all signals
- **Protection**

Relay Output

- **Channel** 1
- **Contact Rating** 0.5 A @ 120 V_{AC}
0.25 A @ 240 V_{AC}; 2 A @ 30 V_{DC}
- **Relay off Time(Typ.)** 4 ms
- **Relay on Time(Typ.)** 3 ms

Digital Input (EKI-1321)

- **Channel** 2
- **Input Level** Logic level 0: 1 V Maximum
Logic level 1: 3 ~ 30 V

General

- **LED Indicators** System: Power, System Status
- **Reboot Trigger** GPRS: Quality, GPRS ready; Serial: Tx, Rx
Built-in WDT (watchdog timer)

Software

- **Driver Support** 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux
- **Utility Software** Advantech Serial Device Server Configuration Utility
- **Operating Modes** Virtual COM, Reverse Virtual COM, TCP/UDP server mode, TCP/UDP client mode, Pair connection mode (Serial Tunnel), RFC2217, SMS Tunnel, IP Gateway w/ VPN
- **Configuration** Windows utility, Telnet console, Web Browser
- **Protocols** ICMP, TCP/IP, UDP, DHCP Client, Telnet, DNS, SNMP, HTTP, HTTPS, SMTP, SNTP, ARP, SSL
- **Router/Firewall** NAT, port forwarding

Mechanics

- **Dimensions (W x H x D)** 27 x 120 x 85 mm (1.06" x 4.72" x 3.35")
- **Enclosure** Metal with solid mounting hardware
- **Mounting** DIN-rail, Wall
- **Weight** 0.49 Kg

Power Requirements

- **Power Input** 12 ~ 48 V_{DC}, redundant dual inputs
- **Power Connector** Terminal block
- **Power Consumption** EKI-1321: 8W, EKI-1322: 8.5W
- **Power EFT/Surge Prot.** 2 KV

Environment

- **Operating Temperature** -30 ~ 65°C (-22 ~ 149°F)
- **Storage Temperature** -40 ~ 75°C (-40 ~ 167°F)
- **Operating Humidity** 5 ~ 95% RH

Regulatory Approvals

- **EMC** CE: EN55022/EN55024, Class A
FCC: FCC part 15 subpart B, Class A
- **RF** FCC Part22H/Part24E, EN301 489-1, EN301 489-7, EN301 511

Ordering Information

- **EKI-1321** 1-port GPRS IP Gateway
- **EKI-1322** 2-port GPRS IP Gateway
- **OPT1-DB9** D-Sub 9 to Terminal Converter

EKI-1361

EKI-1362

1-port RS-232/422/485 to 802.11b/g/n WLAN Serial Device Server

2-port RS-232/422/485 to 802.11b/g/n WLAN Serial Device Server

NEW



Features

- Link any serial device to an IEEE 802.11b/g/n network
- Support 802.11n MIMO 2T2R
- WLAN transmission rate up to 300 Mbps
- Supports secure access with WEP, WPA/WPA2-Personal, WPA/WPA2-Enterprise
- Provides COM port redirection, TCP, UDP, and pair connection modes
- Supports up to 921.6 kbps, and any baud rate setting
- Provides Web-based configuration and Windows utility
- Allows a max. of 5 hosts to access one serial port
- Supports 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux
- Allows a max. of 4 hosts to be accessed as TCP client mode

Introduction

EKI-1361 and EKI-1362 wireless serial device servers bring RS-232/422/485 to wireless LAN or LAN. They allow nearly any device with serial ports to connect and share an WLAN network. EKI-1361 and EKI-1362 provide a quick, simple and cost-effective way to bring the advantages of remote management and data accessibility to thousands of devices that cannot connect to a network.

With EKI-1361 and EKI-1362, your existing serial devices can be used with the most popular operating systems on the market. There is no need to write special drivers for specific operating systems. Moreover, you can make serial devices communicate with other devices peer-to-peer, without any intermediate host PCs and software programming. That saves a lot of cost and effort. In addition, you can actively request data or issue commands from the RS-232/422/485 side or wireless LAN side. This data can be sent bilaterally. Thus, the EKI-1361 and EKI-1362 are especially suitable for remote monitoring environments such as security systems, factory automaton, SCADA, transportation and more.

Specifications

Ethernet Communications

- **Port Type** RJ45
- **No. of Ports** 1
- **Speed** 10/100/1000 Mbps

Wireless LAN Communications

- **Compatibility** IEEE 802.11b/g/n
- **Speed** Up to 300Mbps
- **Network Mode** Infrastructure, Ad-hoc
- **Antenna Connector** Reverse SMA
- **No. of Antenna** 2 (support 2T2R)
- **Free Space Range** Open space 100 m
- **Wireless Security** WEP, WPA/WPA2-Personal, WPA/WPA2-Enterprise

Serial Communications

- **Port Type** RS-232/422/485, software selectable
- **No. of Ports** EKI-1361: 1
EKI-1362: 2
- **Port Connector** DB9 male
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** None, Odd, Even, Space, Mark
- **Baud Rate** 50 bps ~ 921.6 kbps, any baud rate setting
- **Serial Signals** RS-232: TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485: Data+, Data-, GND
15 KV ESD for all signals
- **Protection**

Software

- **Driver Support** 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux
- **Utility Software** Advantech Serial Device Server Configuration Utility
- **Operation Modes** COM port redirection mode (Virtual COM)
TCP/UDP server (polling) mode
TCP/UDP client (event handling) mode
Pair connection without AP (peer to peer) mode
- **Configuration** Windows utility, Telnet console, Web Browser
- **Protocols** ICMP, TCP/IP, UDP, DHCP Client, Telnet, DNS, SNMP, HTTP, SMTP, SNTP, ARP

Mechanics

- **Enclosure** Plastic and metal shell with solid mounting kits
- **Mounting** DIN-rail, Wall
- **Dimensions (W x H x D)** 28.5 x 120 x 85.3 mm (1.12" x 4.72" x 3.36")
- **Weight** 0.5 Kg

General

- **LED Indicators** System: Power, System Status
WLAN: Quality, Link/Active
LAN: Link/Active
Serial: Tx, Rx
Built-in WDT (watchdog timer)
- **Reboot Trigger**

Power Requirements

- **Power Input** 12 ~ 48 V_{DC}, redundant dual inputs
- **Power Connector** Terminal block
- **Power Consumption** EKI-1361: 8W
EKI-1362: 9W

Environment

- **Operating Temperature** -30 ~ 65°C (-22 ~ 149°F)
- **Storage Temperature** -40 ~ 80°C (-40 ~ 176°F)
- **Operating Humidity** 5 ~ 95% RH

Regulatory Approvals

- **EMC** CE, FCC Part 15 Subpart B (Class B)

Ordering Information

- **EKI-1361** 1-port 802.11b/g/n WLAN Serial Device Server
- **EKI-1362** 2-port 802.11b/g/n WLAN Serial Device Server
- **OPT1-DB9** D-Sub9 to Terminal Converter

EKI-1521 EKI-1522 EKI-1524

1-port RS-232/422/485 Serial Device Server

2-port RS-232/422/485 Serial Device Server

4-port RS-232/422/485 Serial Device Server



EKI-1521

EKI-1522

EKI-1524



Features

- Provides 2 x 10/100 Mbps Ethernet ports for LAN redundancy
- Provides COM port redirection (Virtual COM), TCP and UDP operation modes
- Supports up to 921.6 kbps, and any baud rate setting
- Allows a max. of 5 hosts to access one serial port
- Allows a max. of 16 hosts to be accessed as TCP client mode
- Built-in 15 KV ESD protection for all serial signals
- Provides rich configuration methods including Windows utility, Telnet console, and Web Browser
- Supports 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux
- Automatic RS-485 data flow control
- Class I, Division 2 certification

Introduction

EKI-1521, EKI-1522 and EKI-1524 feature two independent Ethernet ports and MAC addresses to provide a redundant network mechanism to guarantee Ethernet network reliability. EKI-1521, EKI-1522 and EKI-1524 are serial device servers that connect RS-232/422/485 serial devices, such as PLC, meters, sensors, and barcode reader to an IP-based Ethernet LAN. They allow nearly any device with serial ports to connect and share an Ethernet network. EKI-1521, EKI-1522 and EKI-1524 provide various operations: COM port redirection (Virtual COMport), TCP Server, TCP Client and UDP mode. With COM port redirection mode, standard serial operation calls are transparently redirected to the EKI-1521, EKI-1522 and EKI-1524, guaranteeing compatibility with legacy serial devices and enabling backward compatibility with existing software. With TCP server, TCP client, and UDP modes, EKI-1521, EKI-1522 and EKI-1524 ensure the compatibility of network software that uses a standard network API. Moreover, you can make serial devices communicate with other devices peer-to-peer, without any intermediate host PCs and software programming.

Specifications

Ethernet Communications

- Compatibility** IEEE 802.3, IEEE 802.3u
- Speed** 10/100 Mbps
- No. of Ports** 2
- Port Connector** 8-pin RJ45
- Protection** Built-in 1.5 KV magnetic isolation

Serial Communications

- Port Type** RS-232/422/485, software selectable
- No. of Ports**
 - EKI-1521: 1
 - EKI-1522: 2
 - EKI-1524: 4
- Port Connector** DB9 male
- Data Bits** 5, 6, 7, 8
- Stop Bits** 1, 1.5, 2
- Parity** None, Odd, Even, Space, Mark
- Flow Control** XON/XOFF, RTS/CTS, DTR/DSR
- Baud Rate** 50 bps ~ 921.6 kbps, any baud rate setting
- Serial Signals**
 - RS-232: Tx+, Tx-, CTS, RTS, DTR, DSR, DCD, RI, GND
 - RS-422: Tx+, Tx-, Rx+, Rx-, GND
 - RS-485: Data+, Data-, GND
- Protection** Built-in 15 KV ESD for all signals

Software

- Driver Support** 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux
- Utility Software** Advantech Serial Device Server Configuration Utility
- Operation Modes**
 - COM port redirection mode (Virtual COM)
 - TCP/UDP server (polling) mode
 - TCP/UDP client (event handling) mode
 - Pair connection (peer to peer) mode
- Configuration** Windows utility, Telnet console, Web Browser
- Protocols** ICMP, IP, TCP, UDP, BOOTP, DHCP, Auto IP, Telnet, SNMP, HTTP, DNS, SMTP, ARP, NTP
- Management** SNMP MIB-II

Mechanics

- Dimensions (W x H x D)** EKI-1521/1522: 37 x 140 x 95 mm (1.46" x 5.51" x 3.74")
EKI-1524: 55 x 140 x 95 mm (2.17" x 5.51" x 3.74")
- Enclosure** Metal with solid mounting hardware
- Mounting** DIN-rail, Wall
- Weight** EKI-1521: 0.592 Kg
EKI-1522: 0.6 Kg
EKI-1524: 0.668 Kg

General

- LED Indicators** System: Power, System Status
LAN: Speed, Link/Active
Serial: Tx, Rx
Built-in WDT (watchdog timer)
- Reboot Trigger**

Power Requirements

- Power Input** 12 ~ 48 V_{DC}, redundant dual inputs
- Power Connector** Terminal block
- Power Consumption** EKI-1521: 2 W
EKI-1522: 2.5 W
EKI-1524: 4 W

Environment

- Operating Temperature** -10 ~ 60°C (14 ~ 140°F)
- Storage Temperature** -20 ~ 80°C (-4 ~ 176°F)
- Operating Humidity** 5 ~ 95% RH

Regulatory Approvals

- EMC** CE, FCC Part 15 Subpart B (Class A)
- Safety** UL/cUL 60950-1
- MTBF** EKI-1521: 1,102,913 hours
EKI-1522: 1,000,154 hours
EKI-1524: 862,230 hours
- Hazardous Location** Class I, Division 2

Ordering Information

- EKI-1521** 1-port RS-232/422/485 Serial Device Server
- EKI-1522** 2-port RS-232/422/485 Serial Device Server
- EKI-1524** 4-port RS-232/422/485 Serial Device Server
- OPT1-DB9** D-Sub9 to Terminal Converter

- 1 WebAccess+ Solutions
- 2 Motion Control
- 3 Power & Energy Automation
- 4 Automation Software
- 5 Operator Panels
- 6 Automation Panel PCs
- 7 Industrial Panel Computers & Panel PC
- 8 Industrial Monitors
- 9 Industrial Wireless Solutions
- 10 Industrial Ethernet Solutions
- 11 Serial Device Servers and IP Gateways
- 12 Serial Communication Cards
- 13 Embedded Automation Computers
- 14 PACs
- 15 Compact PCI Systems
- 16 M2M I/O Modules
- 17 RS-485 I/O Modules
- 18 Ethernet I/O Modules

EKI-1528

EKI-1526

8-port RS-232/422/485 Serial Device Server

16-port RS-232/422/485 Serial Device Server



Features

- 8 or 16-port RS-232/422/485 serial communication
- Provides 2 x 10/100 Mbps Ethernet ports for LAN redundancy
- Supports up to 921.6 kbps, and any baud rate setting
- Provides COM port redirection (Virtual COM), TCP and UDP operation modes
- Provides rich configuration methods: Windows utility, Telnet console, Web Browser, and serial console
- Built-in 15 KV ESD protection for all serial signals
- SNMP MIB-II for network management
- Built-in buzzer for easy location
- Standard 1U rackmount size
- Rear wiring
- Automatic RS-485 data flow control

Introduction

EKI-1528 and EKI-1526 industrial-grade network-based serial device servers connect up to 8 or 16 serial RS-232/422/485 devices, such as CNCs, PLCs, scales and scanners, directly to a TCP/IP network. The EKI-1528 and EKI-1526 feature two independent Ethernet ports and MAC addresses to provide a redundant network mechanism to guarantee Ethernet network reliability. The EKI-1528 and EKI-1526 provide a simple and cost-effective way to bring the advantages of remote management and data accessibility to thousand of devices that can't connect to an Ethernet network. The EKI-1528 and EKI-1526 offer rich ways to configure through Windows utility, Web Browser, serial console or Telnet console, these methods make it easy manage many EKI-1528 and EKI-1526 or serial devices on your network.

Specifications

Ethernet Communications

- **Compatibility** IEEE 802.3, IEEE 802.3u
- **Speed** 10/100 Mbps, auto MDI/MDIX
- **No. of Ports** 2
- **Port Connector** 8-pin RJ45
- **Protection** Built-in 1.5 KV magnetic isolation

Serial Communications

- **Port Type** RS-232/422/485, software selectable
- **No. of Ports** EKI-1528: 8
EKI-1526: 16
- **Port Connector** 8-pin RJ45
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** None, Odd, Even, Space, Mark
- **Flow Control** XON/XOFF, RTS/CTS, DTR/DSR
- **Baud Rate** 50 bps ~ 921.6 kbps, any baud rate setting
- **Serial Signals** 16 ports up to 230.4 kbps simultaneously
RS-232: TxD, RxD, CTS, RTS, DTR, DSR, DCD, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485: Data+, Data-, GND
- **Protection** 15 KV ESD for all signals

Software

- **Driver Support** 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux
- **Utility Software** Advantech Serial Device Server Configuration Utility
- **Operation Modes** COM port redirection mode (Virtual COM)
TCP/UDP server (polling) mode
TCP/UDP client (event handling) mode
Pair connection (peer to peer) mode
RFC2217 mode
- **Configuration** Windows utility, Telnet console, Web Browser, serial console
- **Protocols** ICMP, IP, TCP, UDP, BOOTP, DHCP, Auto IP, Telnet, SNMP, HTTP, DNS, SMTP, ARP, HTTPS, SSL, SSH, NTP
- **Management** SNMP MIB-II

Mechanics

- **Dimensions (W x H x D)** 440 x 44 x 220 mm (17.32" x 1.73" x 8.66")
- **Enclosure** SECC chassis

- **Mounting** Rack
- **Weight** EKI-1528: 2.53 Kg
EKI-1526: 2.58 Kg

General

- **LED Indicators** System: Power, System Status
LAN: Speed, Link/Active
Serial: Tx, Rx
- **Alert Tools** Built-in buzzer and RTC (real time clock)
- **Reboot Trigger** Built-in WDT and push button for hardware reboot

Power Requirements

- **Power Input** 100 ~ 240 V_{AC}, 47 ~ 63 Hz
- **Power Consumption** EKI-1528: 8 W
EKI-1526: 10 W

Environment

- **Operating Temperature** -10 ~ 60°C (14 ~ 140°F)
- **Storage Temperature** -20 ~ 80°C (-4 ~ 176°F)
- **Operating Humidity** 5 ~ 95% RH

Regulatory Approvals

- **EMC** CE, FCC Part 15 Subpart B (Class A)
- **MTBF** EKI-1528: 249,812 hours
EKI-1526: 227,175 hours

Ordering Information

- **EKI-1528** 8-port RS-232/422/485 Serial Device Server
- **EKI-1526** 16-port RS-232/422/485 Serial Device Server

*All items include 1pc OPT1J

Accessories

- **OPT1I** 1 m RJ45 to DB9 Male Cable
- **OPT1J** 30 cm RJ45 to DB9 Male Cable
- **1702002600** Power Cable US Plug 1.8 m
- **1702002605** Power Cable EU Plug 1.8 m
- **1702031801** Power Cable UK Plug 1.8 m
- **1702031836** Power Cable China/Australia Plug 1.8 m

EKI-1221 EKI-1222 EKI-1224

1-port Modbus Gateway

2-port Modbus Gateway

4-port Modbus Gateway



Features

- Provides 2 x 10/100 Mbps Ethernet ports for LAN redundancy
- Integration of Modbus TCP and Modbus RTU/ASCII networks
- Supports up to 921.6 kbps, and any baud rate setting
- Supports up to 16 connections and 32 requests simultaneously
- Easy-managing Advantech Serial Device Server Configuration Utility for Windows 2000/XP/Vista/7
- Auto searching slave ID over configuration utility
- Software selectable RS-232/422/485 communication
- Mounts on DIN-rail and Wall mount
- Built-in 15 KV ESD protection for all serial signals
- Automatic RS-485 data flow control

Introduction

The EKI-1200 series Modbus gateways are bi-directional gateways for integrating new and existing Modbus/RTU and Modbus/ASCII serial devices to newer TCP/IP network-based devices. The EKI-1221/1222/1224 feature two independent Ethernet ports and MAC addresses to provide a redundant networking mechanism to guarantee Ethernet networking reliability. They provide a simple and cost-effective way to bring the advantage of remote management and data accessibility to thousand of devices that can not connect to a network. The EKI-1221/1222/1224 provide a feature that can allow users to select master or slave operation mode for each serial port. They not only allow an Ethernet master to control serial slaves, but also allow serial masters to control Ethernet slaves.

Specifications

Ethernet Communications

- Compatibility** IEEE 802.3, IEEE 802.3u
- Speed** 10/100 Mbps
- No. of Ports** 2
- Port Connector** 8-pin RJ45
- Protection** Built-in 1.5 KV magnetic isolation

Serial Communications

- Port Type** RS-232/422/485, software selectable
- No. of Ports**
 - EKI-1221: 1
 - EKI-1222: 2
 - EKI-1224: 4
- Port Connector** DB9 male
- Data Bits** 7, 8
- Stop Bits** 1, 2
- Parity** None, Odd, Even, Space, Mark
- Flow Control** XON/XOFF, RTS/CTS, DTR/DSR
- Baud Rate** 50 bps ~ 921.6 kbps, any baud rate setting
- Serial Signals**
 - RS-232: TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND
 - RS-422: TxD+, TxD-, RxD+, RxD-, GND
 - RS-485: Data+, Data-, GND
- Protection** 15 KV ESD for all signals

Software

- OS Support** 32-bit/64-bit Windows 2000/XP/Vista/7 and Windows Server 2003/2008
- Utility Software** Advantech Serial Device Server Configuration Utility
- Operation Modes**
 - Modbus RTU Master/Slave mode
 - Modbus ASCII Master/Slave mode
 - Windows Utility, Web Browser
- Configuration** Modbus RTU, Modbus TCP, Modbus ASCII
- Protocols**

General

- LED Indicators** System: Power, System Status
LAN: Speed, Link/Active
Serial: Tx, Rx
Built-in WDT (watchdog timer)
- Reboot Trigger**

Mechanics

- Dimensions (W x H x D)** EKI-1221/1222: 37 x 140 x 95 mm (1.46" x 5.51" x 3.74")
EKI-1224: 55 x 140 x 95 mm (2.17" x 5.51" x 3.74")
- Enclosure** Metal with solid mounting hardware
- Mounting** DIN-rail, Wall
- Weight** EKI-1221: 0.592 Kg
EKI-1222: 0.6 Kg
EKI-1224: 0.668 Kg

Power Requirements

- Power Input** 12 ~ 48 V_{DC}, redundant dual inputs
- Power Connector** Terminal block
- Power Consumption** EKI-1221: 2 W
EKI-1222: 2.5 W
EKI-1224: 4 W

Environment

- Operating Temperature** -10 ~ 60°C (14 ~ 140°F)
- Storage Temperature** -20 ~ 80°C (-4 ~ 176°F)
- Operating Humidity** 5 ~ 95% RH

Regulatory Approvals

- EMC** CE, FCC Part 15 Subpart B (Class A)
- Safety** UL/cUL 60950-1
- Hazardous Location** Class I, Division 2

Ordering Information

- EKI-1221** 1-port Modbus Gateway
- EKI-1222** 2-port Modbus Gateway
- EKI-1224** 4-port Modbus Gateway
- OPT1-DB9** D-Sub9 to Terminal Converter

EKI-1221D EKI-1222D

1-port Modbus Gateway with Integrated Ethernet Cascading

2-port Modbus Gateway with Integrated Ethernet Cascading



Features

- Provides 2 x 10/100 Mbps Ethernet ports for Daisy Chian connectivity
- Integration of Modbus TCP and Modbus RTU/ASCII networks
- Supports Ethernet auto-bypass function
- Master mode supports 32 TCP slaves at the same time
- Slave mode supports up to 16 TCP masters
- Supports mapping Modbus slave ID option
- Auto searching Modbus slave ID over configuration utility
- Mounts on DIN-rail and Wall mount
- Class I, Division 2 certification

Introduction

The EKI-1200 series Modbus gateways are bi-directional gateways for integrating new and existing Modbus/RTU and Modbus/ASCII serial devices to newer TCP/IP networked-based devices. The EKI-1221D/1222D feature two Ethernet ports with one IP address for easier network wiring. One port can be used to connect to the network, and the other port can be used to connect to another Ethernet device or another EKI-1221D/1222D. They provide a simple and cost-effective way to bring the advantage of remote management and data accessibility to thousand of devices that can not connect to a network. The EKI-1221D/1222D provide a feature that can allow users to select master or slave operation mode for each serial port. They not only allow an Ethernet master to control serial slaves, but also allow serial masters to control Ethernet slaves.

Specifications

Ethernet Communications

- **Compatibility** IEEE 802.3, IEEE 802.3u
- **Speed** 10/100 Mbps
- **No. of Ports** 2
- **Port Connector** 8-pin RJ45
- **Protection** Built-in 1.5 KV magnetic isolation

Serial Communications

- **Port Type** RS-232/422/485, software selectable
- **No. of Ports** EKI-1221D: 1
EKI-1222D: 2
- **Port Connector** DB9 male
- **Data Bits** 7, 8
- **Stop Bits** 1, 2
- **Parity** None, Odd, Even, Space, Mark
- **Flow Control** XON/XOFF, RTS/CTS, DTR/DSR
- **Baud Rate** 50 bps ~ 921.6 kbps, any baud rate setting
- **Serial Signals** RS-232: TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485: Data+, Data-, GND
- **Protection** 15 KV ESD for all signals

Software

- **OS Support** 32-bit/64-bit Windows 2000/XP/Vista/7 and Windows Server 2003/2008 (x86 and x64)
- **Utility Software** Advantech Serial Device Server Configuration Utility
- **Operation Modes** Modbus RTU Master/Slave mode
Modbus ASCII Master/Slave mode
- **Configuration** Windows Utility, Web Browser
- **Protocols** Modbus RTU, Modbus TCP, Modbus ASCII

General

- **LED Indicators** System: Power, System Status
LAN: Speed, Link/Active
Serial: Tx, Rx
- **Reboot Trigger** Built-in WDT (watchdog timer)

Mechanics

- **Dimensions (W x H x D)** 37 x 140 x 95 mm (1.46" x 5.51" x 3.74")
- **Enclosure** Metal with solid mounting hardware
- **Mounting** DIN-rail, Wall
- **Weight** EKI-1221D: 0.58 Kg
EKI-1222D: 0.588 Kg

Power Requirements

- **Power Input** 12 ~ 48 V_{DC}, redundant dual inputs
- **Power Connector** Terminal block
- **Power Consumption** EKI-1221D: 2 W
EKI-1222D: 2.5 W

Environment

- **Operating Temperature** -10 ~ 60°C (14 ~ 140°F)
- **Storage Temperature** -20 ~ 80°C (-4 ~ 176°F)
- **Operating Humidity** 5 ~ 95% RH

Regulatory Approvals

- **EMC** EN 55022, EN 55011, EN 61000-6-4, IEC 61000-4-2/3/4/5/6/8, FCC 47 CFR Part 15 Subpart B (Class A)
- **Hazardous Location** Class I, Division 2

Ordering Information

- **EKI-1221D** 1-port Modbus Gateway with Ethernet Cascading
- **EKI-1222D** 2-port Modbus Gateway with Ethernet Cascading

* All items include 1 pc OPT1-DB9 D-Sub9 to Terminal Converter